

This listing of claims will replace all prior versions in the application.

1. [currently amended] A method for *in vivo* detection of an analyte present in blood, comprising the steps of:  
     illuminating a portion of a sterile matrix beneath a nail by passing radiation having a wavelength in the range of approximately 400 nm to 2200 nm. from an optical source comprising a CW laser operating at a fixed wavelength through the nail into the sterile matrix; collecting Stokes Raman optical radiation emitted by blood present in the illuminated portion of the sterile matrix; and analyzing the collected radiation to determine if a selected analyte is present.
2. [currently amended] The method of Claim 1, wherein the analyte is selected from the group consisting of glucose, urea, cholesterol, triglycerides, total protein, albumin, hemoglobin, hematocrit, and bilirubin.
3. [original] The method of Claim 2, wherein the analyte is selected from the group consisting of glucose, urea, and cholesterol.
4. [original] The method of Claim 3, wherein the analyte is glucose.
5. [original] The method of Claim 1, wherein the nail is a fingernail.
6. [cancelled] The method of Claim 1, wherein the illuminating radiation has a wavelength in the range of approximately 400 nm to 2200 nm.
7. [original] The method of Claim 1, wherein the optical source is a CW laser and the radiation has a wavelength in the range of approximately 600 nm to 900nm.
8. [cancelled] The method of Claim 1, wherein the optical source is a laser operating at a fixed wavelength, and the collected radiation comprises Stokes Raman radiation.
9. [currently amended] The method of Claim 1, further comprising the step of:

interposing between the optical source and the nail a window plate and a gel or viscous liquid, both the window plate and the gel or viscous liquid having a refractive index that is approximately equal to the refractive index of the nail, the gel or viscous liquid forming a homogenous optical surface with the nail and the window plate being in direct contact with the surface of the gel or viscous liquid distal from said nail.

10. [cancelled] The method of Claim 9, wherein the window plate has a refractive index that is approximately equal to the refractive index of the nail.
11. [original] The method of Claim 1, wherein the radiation is analyzed by multi-variate regression analysis.
12. [original] The method of Claim 9, wherein the nail is a fingernail.
13. [original] The method of Claim 1, wherein the sterile matrix is caused to be in a blood replete state by applying a pressure of from about one to about four Newtons to the top of the finger of which the sterile matrix forms a part.
14. [cancelled] The method of Claim 1, wherein the source radiation is multi-wavelength radiation, and the collected radiation is analyzed by reflection absorption spectroscopy.
15. [cancelled] The method of Claim 1, wherein the source radiation is multi-wavelength radiation, and the collected radiation is analyzed by optical coherence tomography.
16. [currently amended] A laminar structure for use in the detection of analytes present in a sterile matrix under a nail, comprising:  
an optically transparent window plate having a first side and a second side, and  
a gel of viscous liquid layer affixed to the first side of the window plate, the gel or viscous liquid layer and the window plate having a refractive index approximately equal to the refractive index of the nail.
17. [cancelled] The structure of Claim 16, wherein the window plate has a refractive index approximately equal to the refractive index of the nail

18. [original] The structure of Claim 16 further comprising a film releaseably affixed to the second side of the window plate.

19. [original] A plurality of the structures of Claim 16 separably affixed to each other in the form of a continuous strip.

20. [currently amended] An analytical system for *in vivo* identification and qualification of an analyte in blood, comprising:

a holder, the holder comprising a means for exerting pressure of a finger or toe inserted into the holder to induce pooling of blood in a sterile matrix under a nail of the finger or toe;

means for directing and incident excitation light beam to the finger or toe and through the nail and for focusing the beam at a focal point within the sterile matrix; and

collection optics for collecting anti-Stokes Raman light emitted from scattering

interactions within the sterile matrix; and

an analyzer for quantifying the emitted light.